

WHAT IS CLAIMED:

1 Sub 41
2 1. A motor-assisted drive unit for a vehicle, comprising:
3 a motor for providing power to a drive wheel of the vehicle; and
4 a control board on which control devices of said motor are mounted, the control
5 board being arranged substantially perpendicularly to the motor shaft of said motor, at
least part of the control board extending to a position overlapped with said motor.

1 2. The motor-assisted drive unit of claim 1, wherein one of the control devices is
2 a processing unit, the processing unit being mounted on a portion of the control board so
3 as to project into a gap between an overlapped portion of the control board and the motor.

1 3. The motor-assisted drive unit of claim 1, further comprising a casing, the
2 motor being disposed within the casing.

1 4. The motor-assisted drive unit of claim 3, wherein the control board is
2 elastically supported in the casing.

1 5. The motor-assisted drive unit of claim 3, wherein:
2 the control devices of said motor are mounted on two surfaces of the control
3 board; and

4 a semiconductor device and a thermally conductive board are provided on a
5 surface on a casing side of the control board.

1 6. The motor-assisted drive unit of claim 5, wherein at least part of the thermally

2 conductive board abuts the semiconductor device

1 7. The motor-assisted drive unit of claim 6, wherein at least a part of the
2 thermally conductive board is in contact with the casing.

1 8. A motor-assisted drive unit for a motor-assisted vehicle, comprising:
2 a motor for providing power to a drive wheel of the vehicle;
3 a first control board having at least one control device mounted thereon; and
4 a second control board having at least one control device mounted thereon,
5 wherein the first and second control boards extend in a direction substantially
6 perpendicular to a motor shaft of the motor, and the second control board is overlapped
7 with at least a part of the first control board.

1 9. The motor-assisted drive unit of claim 8, further comprising a casing, the
2 motor and the first and the second control boards being disposed in the casing.

1 10. The motor-assisted drive unit of claim 8, wherein the at least one control
2 device mounted on the first control board includes at least one of a control processor, a
3 capacitor, and a relay.

1 11. The motor-assisted drive unit of claim 10, wherein the at least one control
2 device mounted on the second control board includes transistor.

1 12. The motor-assisted drive unit of claim 10, wherein the first control board is a

2 printed wiring board, and the second control board is a metal board.

18, 19, 20
13. The motor-assisted drive unit of claim 12, wherein the second control board
2 includes aluminum.

1 14. The motor-assisted drive unit of claim 8, further comprising a casing, the
2 motor and the first and the second control boards being disposed in the casing, the second
3 control board being attached to an inner wall surface of the casing, and the first control
4 board being disposed over the second control board, with a gap disposed between the first
5 control board and the second control board.

1 15. The motor-assisted drive unit of claim 4, wherein the control board is
2 elastically supported by a rubber member disposed around a casing boss portion for
3 rotatably supporting the motor shaft of the motor.

1 16. The motor-assisted drive unit of claim 15, wherein the rubber member is
2 compressed between the control board and a motor supporting portion of the casing.

17, 18, 19, 20
A2